



To: Greenhouse Gas Reduction Fund Program

From: Yana Garcia, Secretary for Environmental Protection Agency   
California Environmental Protection Agency

Steven S. Cliff, Ph.D., Executive Officer   
California Air Resources Board

Date: April 28, 2023

Subject: Greenhouse Gas Reduction Fund: California Air Resources Board  
Expenditure Record [For Fiscal Year 2022-23]  
Fluorinated Gases Emission Reduction Incentive Program

This Attestation Memorandum documents that the Research Division of the California Air Resources Board (CARB) completed the attached Expenditure Record on April 21, 2023, for the Fluorinated Gases Emission Reduction Incentive Program. The Expenditure Record is consistent with the statutory requirements of Government Code Section 16428.9 to support expenditures from the Greenhouse Gas Reduction Fund.

This Attestation Memorandum and Expenditure Record will be submitted for public posting on the CARB website at: [www.arb.ca.gov/caclimateinvestments](http://www.arb.ca.gov/caclimateinvestments). Questions on this Attestation Memorandum or Expenditure Record may be directed to Aanchal Kohli by email at [Aanchal.Kohli@arb.ca.gov](mailto:Aanchal.Kohli@arb.ca.gov) or by phone at (916) 282-6241.

Attachment: Greenhouse Gas Reduction Fund: Expenditure Record

cc: Aanchal Kohli, Staff Air Pollution Specialist, Research Division

# Greenhouse Gas Reduction Fund: Expenditure Record

California Air Resources Board  
Fluorinated Gases Emission Reduction Incentive Program

**Authorizing legislation:** Item 3900-102-3228 of Section 2.00 of the Budget Act of 2022 (Chapter 249, Statutes of 2022) appropriates to the State Air Resources Board \$10,000,000 for the Fluorinated Gases Emission Reduction Incentive Program, also called the F-gas Reduction Incentive Program (FRIP).

**Element (1) A description of each expenditure proposed to be made by the administering agency pursuant to the appropriation.**

**Agency that will administer funding:**

- California Air Resources Board

**Amount of proposed expenditure and appropriation reference:**

- The total expenditure is \$10 million, per Item 3900-102-3228, Section 2.00 of the Budget Act of 2022 (Chapter 249, Statutes of 2022) to be made available for the Fluorinated Gases Emission Reduction Incentive Program established by Senate Bill (SB) 1013.
- SB 1013 (Chapter 375, Statutes of 2018) established the Fluorinated Gases Emission Reduction Incentive Program, to be administered by the State board, to promote the adoption of new refrigerant technologies to achieve short- and long-term climate benefits, energy efficiency, and other co-benefits, as specified.

**Estimated amount of expenditures for administering agency administrative costs**

- The total expenditure includes \$10 million for Local Assistance costs.
- Administering agency administrative costs are statutorily limited to \$500,000 or 5 percent of the total program funds.

**If applicable, identify laws or regulations that govern how funds will be used**

- SB 1013 (Chapter 375, Statutes of 2018) established the Fluorinated Gases Emission Reduction Incentive Program, to be administered by the State board and provides direction on program priorities. All funds will be allocated and managed in accordance with these priorities.
- SB 1383 (Chapter 395, Statutes of 2016) mandates the reduction of hydrofluorocarbons (HFCs) or fluorinated gases by 40 percent below 2013 levels by 2030. These emission reduction targets are based on the Short-Lived Climate Pollutant (SLCP) strategy developed pursuant to SB 605 (Chapter 523, 2014). The SLCP strategy identifies the adoption of low global warming potential (GWP) refrigerant technologies among the

most effective measures to reduce HFC emissions and meet the legislative mandates of SB 1383.

- Assembly Bill (AB) 1279 (Chapter 337, Statutes of 2022), requires the State to achieve net zero greenhouse gas (GHG) emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter. It mandates the reduction of GHG emissions by at least 85 percent below the 1990 levels by 2045. All funds will be allocated and managed in accordance with the State's long-term goal of carbon neutrality.

#### **Continuation of existing Expenditure Record**

- This is an update to an existing Expenditure Record.

#### **Project type(s)**

- Low-GWP refrigerant technologies.
- Recycling, recovery, and reclamation of high-GWP refrigerants.

#### **Describe the projects and/or measures that will be eligible for funding**

- Grant funding for new low-GWP refrigerant technologies; retrofitting existing high-GWP refrigerant systems to low-GWP systems; and other low-GWP technology projects that incorporate improved recycling, reclamation, and recovery of high-GWP refrigerants and workforce training.

#### **Intended recipients**

- California businesses that are users of refrigerant technology systems.
- Nonprofit organizations

#### **Program structure and process for selecting projects for funding**

- The administering agency will establish a competitive solicitation process with scoring criteria as the principal method of approving projects. The scoring criteria will be designed with preference to projects that:
  - Are demonstration/pilot projects utilizing innovative low-GWP technologies;
  - Utilize technologies that are scalable;
  - Maximize GHG reductions with the least amount of resources (i.e., high cost-effectiveness);
  - Support small and independent businesses; and
  - Are located in census tracts identified as low-income and disadvantaged communities and communities that are most vulnerable to climate change.

**Element (2) A description of how a proposed expenditure will further the regulatory purposes of Division 25.5 (commencing with Section 38500) of the Health and Safety Code, including, but not limited to, the limit established under Part 3 (commencing with Section 38550) and other applicable requirements of law.**

**How the expenditure is consistent with the Investment Plan and the Scoping Plan**

- AB 1532 (Chapter 807, Statutes of 2012) requires that monies from the Greenhouse Gas Reduction Fund be appropriated in a manner that is consistent with the three-year Investment Plan. The “Cap and-Trade Auction Proceeds Fourth Investment Plan: Fiscal Years 2022-23 through 2024-25” recommends support for replacing refrigerants and/or refrigeration equipment with low-GWP substitutes, particularly in the food retail sector. In addition, the Investment Plan describes the expected increase in the use of heat pumps as a building electrification strategy and recommends incorporating technologies that use refrigerants with the lowest GWP where available. Therefore, the expenditures covered by this record are consistent with the Investment Plan and align with the priorities expressed in the Plan.
- California’s 2022 Climate Change Scoping Plan identified key strategies and recommendations to continue reducing GHG emissions, particularly SLCP emissions, and achieve the goals and purposes of AB 32 and related statutes. The recommended actions for the HFC sector include expansion of very low- or no-GWP technologies in all HFC end-use sectors, conversion of large HFC emitters to lowest GWP technologies, serving priority populations, and taking action to address barriers to the adoption of technologies. Other recommended strategies for achieving success include improvement of recovery, reclamation, and reuse of refrigerants.

**Element (3) A description of how a proposed expenditure will contribute to achieving and maintaining greenhouse gas emission reductions pursuant to Division 25.5 (commencing with Section 38500) of the Health and Safety Code.**

**Describe how expenditures will facilitate the achievement of GHG emission reductions in the State**

- Expenditures will achieve net GHG benefits by providing funding for the high upfront cost of low-GWP refrigerant technologies, such as those used in the commercial refrigeration sector. The cost premium for these systems is the biggest barrier to their adoption. This will result in GHG emission benefits of direct refrigerant emissions and some indirect electricity associated emissions.
- Direct GHG emission benefits: Many of the conventional refrigerants used in new and existing systems have GWPs that are hundreds and thousands of times higher than innovative low-GWP solutions available on the market. Low-GWP solutions funded through this program are expected to have significantly lower carbon dioxide equivalent (CO<sub>2</sub>e) emissions compared to traditional technologies, particularly when they replace older leaky existing systems that use high-GWP refrigerants.

Expenditures will also require proper recovery and recycling of the old refrigerant, thus preventing the refrigerant from being vented into the atmosphere.

- Indirect emission benefits: Many of the technologies used in new systems are more energy efficient than conventional technologies and thus will reduce energy consumption, which results in fewer emissions associated with the generation of electricity over the lifetime of these systems.
- Significant GHG savings can be demonstrated for the existing market base, which is responsible for the majority of emissions of fluorinated gases and will prepare HFC sectors for a low-carbon future.

**Explain when GHG emission reductions and/or co benefits are expected to occur and how they will be maintained**

- GHG emission benefits are expected to occur immediately once a low-GWP system is in place and are expected to occur over the lifetime of the systems (i.e., 15-30 years for new systems and 10-15 years for retrofitted systems).
- Commercial refrigeration systems leak 15-20% of their refrigerant annually. They are also very energy intensive. Once a new or retrofitted low-GWP system is in place, and even if the system continues to leak, the impact of the direct refrigerant emissions is much lower because the GWP of the refrigerant is much lower. Indirect electricity-associated emissions will go down as these systems are more energy efficient.

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- There is a lack of trained technicians for low-GWP refrigerant technologies. Incentive funding for this program will require installation and maintenance by trained technicians. As more of these systems are installed, there will be more trained personnel available for work on these newer technologies. Training and workforce development requirements will be built into the program.

**Element (4) A description of how the administering agency considered the applicability and feasibility of other non-greenhouse gas reduction objectives of Division 25.5 (commencing with Section 38500) of the Health and Safety Code.**

**Expected co-benefits, particularly environmental, economic, public health and safety, and climate resiliency**

- New or retrofitted low-GWP refrigerant systems will yield economic and environmental co-benefits. These projects will alleviate the lack of trained technicians by requiring the installation and maintenance of these projects by trained personnel. Reducing energy use will save businesses money, particularly small businesses, and will improve air quality by reducing criteria pollutant emissions from electricity generation.
- Successful installation of low-GWP refrigerant systems will build confidence in these technologies and help drive down costs as these systems reach economies of scale over time with increased adoption. Increased adoption of low-GWP technologies will lay the foundation to mandate the use of low-GWP refrigerants in thousands of systems statewide and help achieve the State's long-term goals.

**How the project will support other objectives of AB 32 and related statutes**

- Funded projects will consume less energy thus lowering electricity-associated emissions.
- Small businesses will receive priority for the funding. To the extent possible, projects selected for funding will be located in census tracts identified as low-income or disadvantaged and in communities that are vulnerable to climate change.
- This project will demonstrate how the existing base of commercial refrigeration systems can successfully transition to using low-GWP refrigerant technologies. Reducing SLCPs can have a significant impact on impeding climate change, a priority for AB 398.

**Percentage of total funding that will be expended for projects that are located in and benefit priority populations<sup>1</sup> per CARB guidance**

- The Investment Targets for Agencies Administering FY 2022-2023 Funds do not include a minimum target defined for the Fluorinated Gases Emission Reduction Incentive Program to locate projects within and provide benefits to priority populations, but some projects may meet the criteria for providing benefits to priority populations.
- Where feasible and as part of a public process, administering agency staff will provide eligibility and scoring criteria to prioritize funding to projects located in and benefitting priority populations.

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<sup>1</sup> Priority populations include residents of: (1) census tracts identified as disadvantaged by California Environmental Protection Agency per SB 535; (2) census tracts identified as low-income per AB 1550; or (3) a low-income household per AB 1550. See Section VII.B Funding Guidelines for more information on the definitions of priority populations.

**Describe the benefits to priority populations per CARB guidance**

- Projects located in and benefiting priority populations or small businesses will be selected for funding to the extent possible. Direct economic investments in these communities will increase access to local employment opportunities and training in low-GWP technologies. When financing makes a new system possible in an area with lack of access to fresh food, priority populations will benefit substantially through increased access to healthier foods and local employment opportunities.

**Explain strategies the administering agency will use to maximize benefits to disadvantaged communities**

- To help maximize benefits to disadvantaged communities, the administering agency will coordinate with local and regional non-profit organizations to provide input on the types of projects that would be funded.
- Projects that benefit priority populations and demonstrate that the project will meaningfully create local employment opportunities, increase access to fresh food and other associated benefits will receive additional points in scoring.

**Explain how the administering agency will avoid potential substantial burdens to disadvantaged communities and low-income communities or, if unknown, explain the process for identifying and avoiding potential substantial burdens**

- The administering agency will consult directly with communities through various means including workshops and public comments on program guidelines to inform programmatic adjustments to eligibility criteria, and ultimately funding decisions, as necessary to avoid potential substantial burdens to priority populations.



**Element (5) A description of how the administering agency will document the result achieved from the expenditure to comply with Division 25.5 (commencing with Section 35800) of the Health and Safety Code.**

**How the administering agency will track/report progress to make sure projects are implemented per requirements in statute and CARB guidance**

- The administering agency will require funding recipients to maintain records and submit quarterly status reports. In addition, the administering agency will conduct periodic reviews of selected projects including potential site visits. If a funding recipient does not perform in accordance with program requirements, the recipient will be subject to the remedies for non-performance, as identified in the administering agency's guidelines and the grant agreement.

**Describe the approach that will be used to document GHG emission reductions and/or other benefits before and after project completion**

- The administering agency will calculate the GHG emission reductions and co-benefits expected and achieved from projects using a CARB-developed method and/or tool.
- The administering agency will estimate GHG emission reductions and co-benefits (e.g., energy savings) using CARB quantification methodologies. Administering agency staff will review calculations prepared by applicants to ensure consistency with approved methodologies.
- In addition, the administering agency will design each project to collect all data necessary to document the emission reductions achieved. Data collection and reporting requirements for funding recipients will be included as part of the project solicitations and grant agreements or other appropriate enforceable agreements.

**Type of information that will be collected to document results, consistent with CARB guidance**

- To determine the job benefits, the agency will compile data from funding recipients on jobs provided, both the quality and quantity, consistent with CARB guidance.
- The administering agency will collect data on project location, baseline and estimated energy usage, energy costs, type of upgrade that was installed, expected quantification period, and other data, as applicable and as specified in CARB guidance.
- Once operational, the administering agency will collect information on project outcomes consistent with CARB guidance.

**How the administering agency will report on program status**

- The administering agency will report on program status consistent with CARB guidance. The administering agency will provide regular updates on the program, including

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expenditure amounts, GHG emission reductions, and other benefits, as applicable. Reports will also include information on project outcomes consistent with CARB guidance.